

II. Remarks

A. Introduction

Reconsideration and allowance of the present application are respectfully requested. Claims 1 and 41 are independent claims and are pending in the present application. Claims 31, 32, 42 and 43 have been cancelled by this amendment. No new matter has been introduced.

B. Interview

The Examiner is thanked for the courtesies extended to Applicants' representatives during the telephone interview of October 2, 2008. During the interview agreement was reached that the rejections are overcome by incorporating the features of dependent Claims 31 and 32 into independent Claim 1 and dependent Claims 42 and 43 into independent Claim 41. Applicants' separate record of that interview is contained herein.

C. Claim Rejections

1. Withdraw of Previous Obviousness Rejections

Applicants thank the Examiner for withdrawing the previous obviousness rejections based on U.S. Patent No. 5,498,809 to Emert, et al., U.S. Patent No. 4,925,582 to Bennett, et al., a press release from Crompton Corporation dated October 30, 2001, U.S. Patent No. 6,348,514 to Calabrese, U.S. Patent No. 6,075,065 to Yamazaki, et al., and U.S. Patent No. 4,624,679 to McEntee.

2. Unexpected Results of Invention is Commensurate in Scope with Claims 1 and 41 and the Rejection under 35 U.S.C. § 103(a) is Traversed

Independent Claims 1 and 41, and dependent Claims 31, 32, 42 and 43 are rejected under 35 U.S.C. § 103(a) as being unpatentable over GB2193972 to Csikos et al. (hereinafter "Csikos") in view of a press release from Crompton Corporation dated January 7, 2003, and U.S. Patent No. 5,981,632 to Fields (hereinafter "Fields"). This rejection is traversed by the evidence of unexpected results provided in the specification.

Independent Claim 1, as amended, now recites: “0.25 wt% of the butylated diphenylamine and 0.25 wt% of the 1,3,5-tris(2-hydroxyethyl)-S-triazine.” Independent Claim 41, as amended, now recites: “0.25 wt% of the nonylated diphenylamine and 0.25 wt% of the 1,3,5-tris(2-hydroxyethyl)-S-triazine.” The Office Action cites Csikos for teaching antioxidants, but Csikos fails to teach the specific antioxidants, such as butylated diphenylamine, in independent Claim 1, and nonylated diphenylamine, in independent Claim 41. (See Office Action, Page 2). To remedy this deficiency of Csikos, the Examiner turns to Crompton Corporation for teaching butylated diphenylamine and nonylated diphenylamine. (See Office Action, Page 3). Further the Office Action cannot cite any portion of Csikos for teaching the biocide recited in Claims 1 and 41, and turns to Fields. Fields is only offered for teaching a biocide and does not disclose any diphenylamine. One of ordinary skill in the art would not have a rationale for combining the references as alleged by the Examiner due to the unexpected results achieved by the compositions recited in Claims 1 and 41.

Claim 1 has been amended to be commensurate in scope with the unexpected results for butylated diphenylamine identified in the specification on page 20, lines 1-18 (table 2; example 18), and page 27, 1-21 (table 3, example 33). None of the cited references provide a showing of the unexpected results for butylated diphenylamine that are recited in the claims. In particular in Table 1, example 2 contains 0.5 wt% of biocide (Triadine 3: 1,3,5-tris(2-hydroxyethyl)-S-triazine) and achieves a 14-week bacteria onset under ASTM 3946. However, when the antioxidant, butylated diphenylamine (commercially available as Naugalube 640) is added the bacteria onset is greater than 18 weeks. Example 33 show a bacteria onset of 19 weeks in table 3. Thus, it would be unexpected that an antioxidant would increase the ability of the biocide to prevent biological degradation. Similarly, when testing the antioxidant properties using a high temperature (120° C) procedure (ASTM D-2272) the bomb life for butylated diphenylamine in example 15 in table 2 is 72 minutes. When adding biocide to the butylated diphenylamine the bomb life increases to 75 minutes in table 2. Thus, it would

be unexpected that a biocide would increase the ability of the antioxidant to prevent oxidation degradation.

Claim 41 has been added to be commensurate in scope with the unexpected results for nonylated diphenylamine identified in the specification on page 16, lines 7-21 (table 1; example 6). None of the cited references provide a showing of the unexpected results for nonylated diphenylamine that are recited in the claims. In particular in Table 1, example 2 contains 0.5 wt% of biocide (Triadine 3: 1,3,5-tris(2-hydroxyethyl)-S-triazine) and achieves a 14-week bacteria onset under ASTM 3946. However, when the antioxidant, nonylated diphenylamine (commercially available as Naugalube 438L) is added the bacteria onset is greater than 18 weeks. Thus, it would be unexpected that an antioxidant would increase the ability of the biocide to prevent biological degradation. Similarly, when testing the antioxidant properties using a mid temperature (95° C) procedure (ASTM D-943) the total acid number of nonylated diphenylamine when combined with the biocide is about 0.6 after aging for 312 minutes. However, nonylated diphenylamine failed the mid temperature procedure when used without a biocide, which is not surprising since aminic antioxidants, unlike phenolic antioxidants, are known to perform well at temperatures of greater than 120° C. Thus, it would be unexpected that a biocide would increase the ability of the antioxidant to prevent oxidation degradation.

Therefore independent Claims 1 and 41 are commensurate with the scope of the unexpected results and thus are patentable over the cited references.

D. Conclusion

In view of the above remarks, it is believed that this application is in condition for allowance, and a Notice thereof is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3536. All correspondence should continue to be directed to the below-listed address.

Respectfully submitted,

/Keith DS Fredlake/
Attorney for Applicants
Keith Fredlake
Registration No. 58,006

Katten Muchin Rosenman LLP
Phone: 202.625.3536

Please continue to direct correspondence to:
PATENT ADMINISTRATOR
CHEMTURA CORPORATION
199 Benson Road
Middlebury, CT 06749